● PRINTER RUSH ● (PTO ASSISTANCE)

Application: 10/7/4 682 Examiner: Chang GAU: 3748 From: Decation: IDC FMF FDC Date: 11/16/05 Tracking #: EPM. 10/1/4, 682 Week Date: 71/8/2000 DOC CODE DOC DATE MISCELLANEOUS 1449
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[RUSH] MESSAGE: Specification: page # 1 line # 10 Need.
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[XRUSH] RESPONSE:

NOTE: This form will be included as part of the official USPTO record, with the Response document coded as XRUSH.

REV 10/04

5 COMPUTER READABLE STORAGE MEDIUM FOR USE WITH ENGINE HAVING VARIABLE VALVE ACTUATOR DURING DEGRADATION

Cross Reference



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The present application incorporates by reference, for all purposes, the entire contents of U.S. Serial No. 107/4/67, titled "COMPUTER READABLE STORAGE MEDIUM FOR USE WITH ENGINE HAVING VARIABLE VALVE ACTUATOR", attorney docket number: 203-0359 (81090529), file number FGT.3D2, filed November 13, 2003.

Technical Field

The field of the invention relates to engines having variable valve actuators, and in particular to methods for controlling transient behavior of said actuators.

Background and Summary of the Invention

During internal combustion piston engine operation, the piston moves between a bottom dead center (BDC) and a top dead center (TDC) position. When operating near the TDC position, depending on various parameters, there may be physical interference between the engine's valves and the piston.

- U.S. Patent 6,401,675 describes calculating control ranges for variable valve timing and variable valve lift actuators in the event one of the actuators degrades to prevent such interference from occurring.
- 30 The inventors herein have recognized a disadvantage with such an approach. In particular, the system actuators may be functioning, yet various sensors may be degraded. As such, if a signal provides incorrect information, the controller may